Abstract

The subject of the invention is a method for detecting and automatically identifying defects in technical equipment, applicable in diagnosing defects in technical equipment, and especially rotational machinery.

The method consists in measuring measurement signals varying in time and downloading the results of the measurements in the form of spectrograms to the memory of a computer. In the first stage peaks of amplitude values bigger than a specified amplitude threshold value are selected from spectrograms, of which peaks a set of designated peak values is created. Next, the ratio of the frequency of each peak to the frequencies of the other peaks is calculated, whereupon, depending on the value of the obtained quotient, the set of designated peak values is divided into two subsets. In the second stage, in one of the subsets, peak groups differing from each other by the basic frequency values are distinguished. The second subset, created from the set of designated peak values, is searched for the presence of sidebands for peaks from each specified peak group and if the presence of sidebands is found, the basic frequency of the sidebands is calculated. Then, in stage three, the existence of a defect in the technical equipment is detected, which is then identified by comparing the basic frequencies and the basic frequencies of the sidebands with the frequency values collected in the memory of the computer device.